

This letter is to comment on proposed changes to Ag Order 4.0 being put forth by the Central Coast Regional Water Quality Board. I am a member of the fourth generation of my family to farm in the Salinas Valley, and am employed by Braga Fresh, a company operated by third generation local owners. The company farms approximately 4500 acres in the Salinas Valley, the majority of which are certified organic. Prior to joining Braga Fresh, I farmed organically for twelve years with Mission Organics/Earthbound Farm, where we managed over 12,000 acres of organic production annually. I, as well as the company by which I am employed, am dedicated to farming both organically and conventionally, to being a good steward of the land, as well as to seeing the produce industry continue to succeed in the Salinas Valley. I support modifications to Ag Order 4.0 metrics as proposed by the Grower Shipper Association and Monterey County Farm Bureau, with the end result of meeting the goals of the CCRWQB, as well as the continued success and sustainability of farming, especially organic, on the Central Coast.

One of my key concerns with Ag Order 4.0 is the required reporting of nitrogen removed during harvest. Coefficients for nitrogen removed are not yet available for many of the crops grown on the Central Coast. To ensure that future regulations which may steer the decision making process for the agriculture industry for many years to come, it would be prudent to have the regulations rooted in firm science. I would like to see the proper research conducted to establish specific crop coefficients, and until such time believe that growers should only be required to report total nitrogen applied.

Most near and dear to my heart is organic farming. With 8% of farm land in Monterey County certified organic, and over 1 million acres certified throughout the state of California, organic production has been very successful and has grown rapidly over the last twenty years. New rules proposed in Ag Order 4.0 may serve to have a substantial negative impact on organic production in particular. The CCRWQCB does not appear to be taking into consideration a key difference between organic and conventional farming soil inputs in regard to the proposal that all growers report the total pounds of nitrogen applied in fertilizer, and soil amendments: unlike conventional fertilizers which are applied in mineralized forms of nitrogen (NH_4 or NO_3) and are 100% available for plant uptake, organic fertilizers must first undergo a mineralization process carried out by soil microbes before the nitrogen is converted to a soluble form that can be utilized by the plant during a cropping cycle. The mineralization rates can vary widely, but generally they are less than 60%, as seen in Table 1. Soil experts believe the nitrogen which is not mineralized is recalcitrant and adds to the organic nitrogen in the soil organic matter. This organic nitrogen in the organic matter pool is unlikely to leach nitrate nitrogen, as the soil acts as a reservoir for nutrients. Generally only 2-5% of soil organic matter decomposes annually (Gaskell et al., UC ANR publication #7249). If Ag Order 4.0 treats all sources of nitrate as equal in regards to TNA, organic farming programs would be severely hampered to the point where reductions in yield and quality may render them no longer financially viable.

Laboratory Incubations of Fertilizer Materials

Percent N Mineralized

Material	2 weeks	4 weeks	8 weeks
2.5-2.0-2.5	4.0	5.8	13.6
4-4-2	28.8	30.5	37.5
8-5-1	47.2	43.5	58.5
10-5-2	43.8	49.3	58.8
12-0-0	48.7	56.5	59.3

Lab evaluations generally had lower levels of N mineralization and it may be because they don't have issues with loss of material from the pouches

Table 1 (From Richard Smith, UCCE, Monterey County)

A potential solution to this problem would be to introduce a mineralization coefficient to be multiplied by the total pounds of nitrogen applied (Mineralization coefficient multiplied by total nitrogen applied = available nitrate nitrogen). A coefficient would need to be established for individual organic fertilizers, to account for the different rates of mineralization specific to each type of fertilizer. The coefficient should be a scientifically measured rate based on research like that performed in Table 1. This approach would allow organic growers to more accurately demonstrate their nitrogen usages. As research has shown, the nitrogen which is not mineralized is not a likely source of nitrate contamination in ground water.

By allowing organic growers the use of a mineralization coefficient the CCRWQB would be encouraging growers to continue organic practices, many of which contribute to the goals of AG Order 4.0. Organic practices and amendments can improve soil structure and water infiltration. Organic practices also promote the use of cover crop, and improve soil health – all factors that should reduce nutrient(nitrate) and sediment discharges to surface water. Organic farming also prohibits the use of synthetic pesticides, and thereby does not contribute to toxicity in surface water from pesticide discharges. Perhaps an incentive could be created for growers, both organic and conventional, for the cover cropping practice by adding the amount of nitrogen removed from cover crops to the amount of nitrogen removed calculation.

Through open dialog and discussion, and utilizing the ample research available, I am hopeful thoughtful solutions can be found to achieve the goals of Ag Order 4.0, while allowing all methods of farming on the Central Coast to remain viable and continue to be critical drivers of our economy and community.

Sincerely,

Robert Long